

**Invitation for Public Comment on the List of Candidates to Augment the
Advisory Council on Clean Air Compliance Analysis (Council)
for the Black Carbon Review**

November 30, 2010

The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a Federal Register Notice (75 FR 48328) published on August 10, 2010 that it was soliciting nominations for experts to augment the Advisory Council on Clean Air Compliance Analysis (Council) for a review of the EPA draft Report to Congress on Black Carbon. The notice requested nominations of nationally and internationally recognized experts in global and regional climate modeling; aerosol atmospheric chemistry; air emissions inventories; ambient monitoring/emissions measurement; health effects of black carbon and fine particulate matter (PM_{2.5}); black carbon/PM_{2.5} controls and associated costs; and benefits assessment.

In addition to the members of the Council, the SAB Staff Office has identified 19 candidates based on their relevant expertise and willingness to serve. Biosketches for the 19 candidates to augment the Council for this review are provided below. Biosketches for the current members of the Council are available at <http://yosemite.epa.gov/sab/sabpeople.nsf/WebExternalCommitteeRosters?OpenView&committee=COUNCIL&secondname=Advisory%20Council%20on%20Clean%20Air%20Compliance%20Analysis%20>.

The SAB Staff Office Director will make the final decision about who will serve on the panel based on all relevant information. This will include a review of the confidential financial disclosure form (EPA Form 3110-48), relevant information gathered by staff, and public comments. For the EPA SAB Staff Office, a balanced panel is characterized by inclusion of candidates who possess the necessary domains of knowledge, the relevant scientific perspectives (which, among other factors, can be influenced by work history and affiliation), and the collective breadth of experience to adequately address the general charge. Specific criteria to be used in evaluating a candidate include: a) scientific and/or technical expertise, knowledge, and experience; b) availability and willingness to serve; c) absence of financial conflicts of interest; d) absence of appearance of a lack of impartiality; e) skills working in advisory committees and panels; and f) for the panel as a whole, diversity of scientific expertise and viewpoints.

We hereby invite comments on the attached List of Candidates for consideration by the SAB Staff Office in the formation of this panel. Comments should be submitted to Ms. Stephanie Sanzone, Designated Federal Officer, no later than December 21, 2010. E-mailing comments (sanzone.stephanie@epa.gov) is the preferred mode of receipt.

Council Augmented for Black Carbon Review

Ayala,Alberto

California Environmental Protection Agency

Dr. Alberto Ayala directs the Monitoring and Laboratory Division of the California Air Resources Board (CARB). CARB is California's clean air and climate change agency. Dr. Ayala holds a B.S. in Aerospace Engineering, an M.S. in Engineering, and a Ph.D. in Mechanical Engineering all from the University of California at Davis. As a member of CARB's executive staff, Dr. Ayala is responsible for the state's ambient air quality monitoring programs. He also directs several analytical laboratories and programs focused on the measurement and characterization of motor vehicle emissions, fuels, asbestos, consumer products, air emergency response, and fuel vapor recovery. Dr. Ayala's research concentrates on particulate matter (PM) emissions from diesel internal combustion, with special emphasis on the characterization of ultrafine particles and black carbon (BC). Presently, he is fully focused on helping design the next phase of California's landmark low emissions vehicle program, for which he is leading CARB's exploration of options for mitigating BC for its climate forcing. Dr. Ayala is also actively involved with automotive industry associations such as the Coordinating Research Council and SAE International. He has served as expert consultant for various entities such as the U.S. Environmental Protection Agency – Midwest Clean Diesel Initiative, and the Canadian Federal Program for Energy Research and Development – Advanced Fuels and Technologies for Emissions Reductions. He was a Panel Member for the Connecticut Academy of Science and Engineering, Study Committee on Hybrid Diesel-Electric Transit Buses. Before CARB, Dr. Ayala was an Assistant Professor of Mechanical and Aerospace Engineering at West Virginia University where he currently holds an Adjunct Professor appointment. He has been a Visiting Professor at the University of the Pacific and the Escuela Politecnica Nacional in Ecuador.

Baum,Ellen

Clean Air Task Force

Ellen Baum is a Senior Scientist for the Clean Air Task Force (CATF). For nearly ten years, she has led CATF's effort to explore the role short-lived climate forcers, including black carbon, could play toward mitigating near-term climate impacts. She has developed expertise in understanding climate response from sources of black carbon and the uncertainty associated with the scientific understanding of the black carbon climate impacts. CATF has obtained funding for researchers to undertake a number of studies aimed at improving understanding of sources, source regions and history of black carbon emissions. This includes support of ice core analysis, snow and ice sampling, modeling of indirect effects, measurements both of emission sources and in the atmosphere and development and modeling the climate response of plausible reductions. CATF has convened, co-convened and provided support for numerous scientific and policy meetings associated with black carbon and short-lived pollutants, including meetings of POLARCAT, with Goddard Institute of Space Studies, and with Arctic scientists and governments. Baum has presented on emission sources and mitigation potential at Congressional briefings and to meetings of the US EPA. Baum holds Masters degrees from the Yale School of Forestry and Environmental Studies and the Yale School of Public Health. She has served on the Technical Advisory Committee of the New York Energy Research and Development Authority (NYSERDA).

Corbett,James J.

University of Delaware

James J. Corbett, P.E., Ph.D. conducts technology-policy research related to transportation, including groundbreaking research on air emissions from maritime transport, energy and environmental impacts of freight transportation, and assessment of technological and policy strategies for improving goods movement. Dr. Corbett is a Professor in the College of Earth Ocean and Environment with joint appointment in Civil and Environmental Engineering in the College of Engineering at the University of Delaware. He is a principal partner in Energy and Environmental Research Associates, L.L.C. (EERA), engaged in energy, environmental, and economic analysis for clients internationally. Dr. Corbett received his Ph.D. in Engineering and Public Policy (EPP) from Carnegie Mellon University, where he also earned M.S. degrees in the departments of EPP and Mechanical Engineering. He is a graduate of the California Maritime Academy and he worked as a licensed officer in the U.S. Merchant Marine, a Naval Reserve Engineering Duty Officer, and a consultant for industry and government in industrial operations, energy and environmental performance. Among more than 120 publications related to shipping and multimodal transportation, Dr. Corbett coauthored the 2000 IMO Study on Greenhouse Gases from Ships, the Second IMO Greenhouse Gas Study 2009, and wrote the Marine Transportation and Energy Use chapter in the 2004 Encyclopedia of Energy. He contributed to the Environmental chapter of the Arctic Marine Shipping Assessment (2009), and led the development of scenarios to quantify environmental impacts of future Arctic Shipping.

Fahey,David W.

Cooperative Institute for Research in Environmental Sciences (CIRES)

Dr. David W. Fahey is a research physicist in NOAA's Earth System Research Laboratory in Boulder, Colorado, USA. He joined the Laboratory after receiving advanced degrees in physics from the University of Wisconsin and the University of Missouri. His principal research interest is the measurements of trace gases and aerosols in the troposphere and lower stratosphere using instruments on board research aircraft. His current projects address water vapor in the lower stratosphere and the role of black carbon aerosol in climate. Dr. Fahey has served as a Principal Investigator and Project Scientist for a number of airborne sampling missions with NASA's research manned and unmanned aircraft and as a participant in several international scientific assessments of ozone depletion and climate. He is an author of the 2007 climate science assessment of the Intergovernmental Panel on Climate Change, which shared the 2007 Nobel Peace Prize. He has received the U. S. Department of Commerce Silver and Bronze Medals for Meritorious Federal Service, the American Meteorological Society Henry G. Houghton Award, and is a Fellow of the American Geophysical Union.

Frey,H. Christopher

North Carolina State University

Dr. H. Christopher Frey is a professor of environmental engineering in the Department of Civil, Construction, and Environmental Engineering at NC State. His research interests are measurement and modeling of real-world fuel use and emissions of onroad and nonroad vehicles; modeling and evaluation of advanced energy conversion (e.g., combustion, gasification) and environmental control systems; development and application of methods for quantification of variability and uncertainty and for sensitivity analysis in environmental systems models; and exposure and risk analysis. He has been the principal investigator or co-principal investigator for approximately 50 externally sponsored research projects, and has published 79 journal papers, 130 conference papers, 60 technical reports, 5 book chapters, and one book. He teaches courses in air pollution control, air quality, and environmental exposure and risk assessment. He currently serves on the U.S. Environmental Protection Agency's Clean Air Scientific Advisory Committee (CASAC) and on the Board of Environmental Studies and Toxicology of the National Research Council. In recent years, he has served on an EPA Science Advisory Board panel on expert elicitation, National Research Council committees on review of the toxicological assessment of tetrachloroethylene and of EPA's New Source Review program, a NARSTO assessment of multipollutant air quality management, and a World Health Organization working group on uncertainty in exposure assessment. He was a lead author for 2006 guidance by the Intergovernmental Panel on Climate Change (IPCC) regarding uncertainty in greenhouse gas emission inventories. He is a Fellow and Past President of the Society for Risk Analysis and a Fellow of the Air & Waste Management Association. Recent awards include a 2008 NCSU Alumni Association Outstanding Research Award, 2008 Mobile Clean Air and Renewable Energy Award, and the 2009 Earthwise Faculty Award. He has a B.S. Mechanical Engineering from the University of Virginia, and from Carnegie Mellon University he has a Master of Engineering in Mechanical Engineering and PhD in Engineering and Public Policy.

Fuglestad,Jan

Center for International Climate and Environmental Research-Oslo (CICERO)

Dr. Jan Sigurd Fuglestad is a research director at CICERO. He holds a PhD degree in atmospheric chemistry from the University of Oslo. He has participated as Principle Investigator in several European Union projects, including QUANTIFY and ATTICA. His main research activities have been in atmospheric chemistry modeling and the development of methods and metrics for the quantification and comparison of climate impacts of the various emissions and sectors. Much of this research has focused on the transport sectors and the role of short-lived climate forcing agents. He is a Lead Author of the chapter on Anthropogenic and Natural Radiative Forcing in the next IPCC report (AR5).

Hansen,Anthony

Magee Scientific Corporation

Dr. Tony Hansen obtained his M.A. in Physics at the University of Oxford, and his Ph.D. in Physics at the University of California, Berkeley. He started his career in the Atmospheric Aerosol Research Group at Lawrence Berkeley National Laboratory headed by Dr. T. Novakov. This group pioneered the study of carbonaceous aerosols from combustion sources at a time when the very existence or significance of primary particulates was strongly debated. This group coined the phrase "Black Carbon" (BC); developed numerous methods for its detection and quantitation by chemical and physical means; studied its influence on heterogeneous atmospheric chemistry in laboratory and field work; and measured its concentrations from urban areas, through regional and rural studies, and ultimately to the Arctic and the South Pole, to document the global dispersion of BC. Tony Hansen was a key contributor to this body of work in this seminal period, co-authoring more than 40 refereed journal articles. In the course of this research he developed the Aethalometer, an instrument that measures BC in real time by measuring incremental optical absorption on a continuously-collecting filter. Over the years this instrument has been enhanced and improved, leading to its accepted use world-wide for the routine monitoring of BC as well as for specialized research applications. Tony has remained closely connected to the interpretation of scientific data involving measurements of BC, together with presentations at conferences and co-authorship of publications with other scientists. He has served as a reviewer for manuscripts submitted to professional journals, and for research proposals submitted to funding agencies. During his career at LBNL he served on numerous internal and external committees and projects, and more recently has provided input to the evaluation of BC measurement methods at various workshops and meetings around the world.

Helble, Joseph

Dartmouth College

Joseph J. Helble is Professor and Dean of the Thayer School of Engineering at Dartmouth College. Prior to joining Dartmouth as Dean in 2005, he served as a faculty member and Chair of the Department of Chemical Engineering at the University of Connecticut (UConn), and was also a member of the UConn Environmental Engineering faculty. His research is primarily in the area of air pollution, with specific activities and interests in combustion-derived particulate matter formation and control, mercury, trace metal and air toxics air pollutants, air quality modeling, ambient particulate matter structure, carbon dioxide capture, and particle coalescence. He also initiated a program to produce biodiesel fuel from waste vegetable oil on the UConn campus. Dr. Helble is the author of 100 publications, primarily in the air pollution field, and is a member of the editorial board of the journals Fuel Processing Technology and Environmental Engineering Science. From 2004-2005, Dr. Helble was the holder of the Revelle Fellowship in Global Stewardship from the American Association for the Advancement of Science (AAAS). As the Revelle Fellow, he spent a year working on environmental and technology policy issues in the office of U.S. Senator J. Lieberman. Prior to joining the UConn faculty in 1995, Dr. Helble spent 8 years at Physical Sciences Inc., a small business specializing in environmental and energy technology research and development. He also spent a fellowship period at U.S. EPA headquarters in Washington D.C. as a science and policy fellow of AAAS, and received the Barnard Award from AAAS for his work on dioxin as an EPA Fellow in 1993. Dr. Helble is active in the American Association of Aerosol Science, the American Chemical Society, where he is currently Program Chair of the Fuel Chemistry Division for the 2007 national ACS meetings, the American Society for Engineering Education (ASEE), and the science policy fellowship program of AAAS. He has served on EPA Science Advisory Board panels on air toxics and the first draft report on the environment, and on numerous NSF advisory and review panels in environmental engineering and in combustion. He recently served on the NSF Committee of Visitors (COV) reviewing the combustion program within the NSF Engineering Directorate. Dr. Helble is an elected member of the Connecticut Academy of Science and Engineering. He is a 1982 summa cum laude B.S. graduate of Lehigh University in chemical engineering, and a 1987 chemical engineering Ph.D. graduate of the Massachusetts Institute of Technology.

Jacobson, Mark

Stanford University

Dr. Jacobson is Director of the Atmosphere/Energy Program and Professor of Civil and Environmental Engineering at Stanford University. He is also a Courtesy Professor of Energy Resources Engineering, a Senior Fellow of the Woods Institute for the Environment, and a Senior Fellow of the Precourt Institute for Energy. He has a B.S. in Civil Engineering with distinction, an A.B. in Economics with distinction, and an M.S. in Environmental Engineering from Stanford University. He received an M.S. in Atmospheric Sciences and a PhD in Atmospheric Sciences from UCLA. His work relates significantly to the development and application of numerical models to understand better the effects of human-emitted gases and particles on climate and air pollution. He has published two textbooks, "Fundamentals of Atmospheric Modeling" and "Atmospheric Pollution: History, Science, and Regulation," and over 100 peer-reviewed scientific journal articles. His 2000 finding that black carbon, the main component of soot particles, may be the second-leading cause of global warming after carbon dioxide provided the original scientific basis for four recent U.S. proposed laws on black carbon. He received the 2005 American Meteorological Society Henry G. Houghton Award for "significant contributions to modeling aerosol chemistry and to understanding the role of soot and other carbon particles on climate." On October 18, 2007, he was invited to testify in the U.S. House of Representatives Committee on Oversight and Government Reform on the relationship between black carbon and global warming. His most recent study on black carbon (2010) is entitled, "Short-term effects of controlling fossil-fuel soot, biofuel soot and gases, and methane on climate, the Arctic, and health," published in the Journal of Geophysical Research. He currently serves on the United States Department of Energy Office of Energy Efficiency and Renewable Energy Federal Advisory Committee to the United States Secretary of Energy.

Kleinman, Michael T.

University of California, Irvine

Dr. Michael T. Kleinman is an Inhalation Toxicologist, a Professor of Occupational and Environmental Medicine in the Department of Medicine and the Co-Director of the Air Pollution Health Effects Laboratory at the University of California, Irvine (UCI), where he has been since 1982. He was previously an environmental scientist with the U.S. Atomic Energy Commission (AEC) and he later directed the Aerosol Exposure and Analytical Laboratory at Rancho Los Amigos Hospital in Downey, CA. He is a toxicologist and with a primary research interest in the study of health effects caused by exposures to inhaled environmental contaminants. He holds a M.S. in Chemistry (Biochemistry) from the Polytechnic Institute of Brooklyn and a Ph.D. in Environmental Health Sciences from New York University. He has published more than 100 articles in peer-reviewed journals dealing with environmental contaminants and their effects on cardiopulmonary and immunological systems and on global and regional distribution of environmental contaminants including heavy metals and radioactive contaminants from nuclear weapons testing and manufacture. He served on two National Research Council committees that examined issues in protecting deployed U.S. Forces from the effects of chemical and biological weapons. Dr. Kleinman has previously served on U.S. EPA Clean Air Scientific Advisory Committee (CASAC) panels, is a member of the USEPA STAA committee and currently serves as the Chair of the California Air Quality Advisory Committee. His current research focuses on health effects of inhaled particles, including nanomaterials and ultrafine, fine and coarse ambient particles in humans and laboratory animals. His recent studies demonstrate that inhalation of combustion-generated particles can promote airway allergies and accelerate the development of cardiovascular disease and that these effects may be associated with organic and elemental carbon components of the ultrafine fraction of the ambient aerosol.

Koch,Dorothy M.

Department of Energy

Dr. Dorothy Koch is a climate modeling program manager with the Department of Energy since September 2010. Prior to this she was a Research Scientist at Columbia University and the NASA Goddard Institute for Space Studies, where she implemented aerosols in the GISS GCM and had particular interest in effects of black carbon (BC) on climate. She has published on the effects of BC on clouds, and BC effects on snow albedo and climate. Dr. Koch recently led a model intercomparison assessing BC in current global models, and has led investigations of BC transport and climate impacts in the context of particular sectors. Most recently, Dr. Koch has been a lead author on the document "Bounding the role of black carbon on climate" led by Dr. Tami Bond and others that summarizes the state-of-science assessment of how BC affects climate and soon to be submitted for publication.

Lack,Daniel A.

Cooperative Institute for Research in Environmental Sciences (CIRES)

Dr. Daniel Lack is a Research Scientist at the University of Colorado's Cooperative Institute for Research in Environmental Science (CIRES) and the National Oceanic and Atmospheric Administrations (NOAA) Earth System Research Laboratory (ESRL), Boulder, CO. Dr. Lack started at CIRES/NOAA in 2004 as a post-doctoral fellow and now leads NOAA ESRLs Chemical Sciences Divisions Aerosol Radiative Properties Laboratory. His expertise includes development of airborne instrumentation for the measurement of the climate impacts of atmospheric particles, in particular, black and brown carbon and mineral dust. He has served as the principle investigator for aerosol radiative properties on 6 CU/NOAA field campaigns since 2006. Other areas of recognised expertise include the emissions of black carbon and other particle pollution from the commercial shipping industry. Dr. Lack earned a B.Sc in Applied Chemistry, a M.Sc. in Geochemistry and Ph.D. in Atmospheric Chemistry and Physics from the Queensland University of Technology, Australia. Dr Lacks detailed development, assessment and application of advanced instrumentation for the radiative impacts of black carbon has established new boundaries for the assessment of BC measurements at long term monitoring sites using more common methods. Dr. Lack's work on shipping emissions has contributed to the International Maritime Organisations (IMO) Marine Environment Protection Committee (MPEC) including the MPECs assessment of the US EPAs application for a North American Emission Control Area and BC emissions of Arctic shipping. His work also established an emissions baseline for the NOAA fleet of research vessels and is establishing more integrated emissions research collaboration between academic research and the shipping industry. His recent work established global and regional (Arctic) inventories of BC and other particulate emissions from ships. Dr. Lack has served as a reviewer and advisor to multiple submissions to the IMOs Marine Environment Protection Committee, US Department of Energy, National Science Foundation, Israel Science Foundation and NASA. He is a member of the Tropospheric Airborne Measurement Evaluation Panel (TABMEP) and served as a scientific advisor for black carbon research sponsored by the International Council on Clean Transportation (ICCT).

Menon,Surabi

Lawrence Berkeley National Laboratory

Dr. Surabi Menon is a staff scientist at Lawrence Berkeley National Laboratory (LBNL). She was also elected as the Atmospheric Science Section Secretary for Aerosols and Clouds at the American Geophysical Union. She holds a Ph.D in Atmospheric Science from North Carolina State University, an M.S. in Atmospheric Science from Purdue University and a B.Sc in Physics from the University of Bombay, India. Dr. Menon works in the area global climate change. Her interest is in the modeling of the effects of aerosols, on cloud properties and climate and her work on the climatic impacts of black carbon aerosols have been highly cited. More recently she has worked on the climate impacts of reflective roofs and pavements and is developing new projects on the impacts of utility-scale deployment of renewables on the economy, health and environment. She is interested in both regional and global climate effects from anthropogenic activities. Dr. Menon serves on the Strategic Committee for LBNL's new initiative on the Carbon Cycle. She is also a co-founder of the Center for Environmental Awareness and Action (CEAA-Earth), a non-governmental organization aimed at involving community efforts in reducing global warming impacts from black carbon and other fossil fuels through use of renewables.

Minjares,Ray

International Council on Clean Transportation

Ray Minjares is a policy analyst in the climate and health program of the International Council on Clean Transportation (ICCT). He holds a bachelor of arts degree from the University of California at Los Angeles, where he concentrated on environmental studies, international development studies and philosophy. And he holds a masters degree in public health from the University of California at Berkeley where he concentrated on health policy and management. Mr. Minjares' work seeks to understand best practices for mitigating the health and climate impacts of non-CO2 emissions from the transportation sector. This has lately focused on the climate science of short-lived forcing agents such as black carbon, as well as systems for accounting for these pollutants within policy frameworks designed for long-lived pollutants. He also works on ultrafine particle science, measurement systems for black carbon and ultrafines, and on health impact assessment of mobile source particulate matter emissions.

Moore, Jr., Charles Thomas (Tom)

Western Governors' Association, Western Regional Air Partnership

Mr. Charles Thomas (Tom) Moore, Jr. is the air quality program manager for the Western Governors' Association and coordinates technical activities for the Western Regional Air Partnership, a voluntary partnership of states, tribes, federal land managers, local air agencies and the US EPA, whose purpose is to understand current and evolving regional air quality issues in the context of the Clean Air Act (CAA) and its Amendments. The WRAP air quality project supports the portion of the WGA mission to develop policies and carry out programs in the areas of natural resources, the environment, human services, economic development, international relations and state governance. His work covers ambient monitoring data analysis, emissions inventory preparation and analysis, regional photochemical grid modeling and source apportionment results, and satellite air quality data. He has worked extensively with both the activity and emissions estimation techniques for wildland and agricultural fire emissions, in support of air quality planning and management programs across the West. He has a B.S. in Physical Geography (1989) from Arizona State University in Tempe, with an emphasis on meteorological and glacier field studies, and climate data analysis projects. He has lead numerous air pollution monitoring studies and analysis projects, held management positions in state and local government, and has worked as an environmental consultant. Before joining the WGA in 2002, he designed and managed air quality monitoring and analysis activities for the Arizona Department of Environmental Quality, where he led the development and implementation of the haze monitoring networks in both urban and remote areas throughout the state. Tom has also worked for the Western States Air Resources Council, the regional association of state air quality agencies for 15 western states. As a WESTAR representative from 1996-98, he served on the Science and Technical Support Workgroup of the EPA CAAAC's Subcommittee On The Joint Implementation of Ozone and PM NAAQS and Regional Haze rule. He served as the Arizona DEQ representative to the IMPROVE Steering Committee 1999-2001, on the Phoenix (AZ) Metropolitan Area Visibility Index Oversight Committee, and the Stakeholder Advisory Group for the Arizona Regional Haze State Implementation Plan Development process, both 2001-02. He is a member of the Air & Waste Management Association.

Penner, Joyce

University of Michigan

Dr. Joyce E. Penner is the Ralph J. Cicerone Distinguished University Professor of Atmospheric Science at the University of Michigan, Ann Arbor. She holds of B.A. from the University of California and a Ph.D. from Harvard University. She is a leading expert on the interactions of chemistry, aerosols, and their effects on the climate system. She developed early simplified treatments for chemical interactions within the nitrogen cycle in the troposphere and used a global three-dimensional model together with comparison to observations to place constraints on the sources of nitrogen in the troposphere and the effects of anthropogenic emissions on tropospheric ozone (1991, 1994). This study was extended to treat nitrate and ammonium in aerosols (2007). She also developed simplified treatments for the sulfur cycle within a global model and used this model to quantify the climate forcing and climate response from anthropogenic sulfate aerosols (1994, 2000). Dr. Penner published the first study of the climate forcing from aerosols produced in biomass burning (1992) as well as absorbing black carbon aerosols from fossil fuel burning (1993). She was also first to recognize the importance of organic matter in aerosols for cloud condensation nucleation (1993). She has published over 170 peer-reviewed journal articles, and is a Fellow of the American Geophysical Union and the American Association for the Advancement of Science. She is currently a member of the Department of Energy Biological and Environmental Research Advisory Committee and the Max Planck Institute for Chemistry at Mainz Scientific Advisory Committee.

Sedlacek, Arthur J.

Brookhaven National Laboratory

Dr. Arthur J. Sedlacek is an atmospheric chemist within the Atmospheric Sciences Division at Brookhaven National Laboratory where he also serves as technical manager for the Aerosol Direct Effects group. He received his Ph.D. in physical chemistry from the University of Utah where his thesis research focused on the use of infrared and Raman spectroscopies to follow reaction dynamics in both amorphous solids and in the gas phase. His post-doctoral research centered on understanding the complex energy transfer mechanisms and reaction dynamics associated with highly-vibrationally excited molecules. After joining the BNL scientific staff in 1992, he helped establish the first-ever remote sensing program at BNL and in 1999, Dr. Sedlacek's group designed the first ever Raman lidar system specifically for the short-range, insitu, non-contact detection and identification of ground contamination. This groundbreaking work, developed to support civilian First Responders and Haz/Mat professionals, was awarded a patent in 2003. Since joining the Atmospheric Sciences Division in 2004, Dr. Sedlacek's research has focused on elucidating the contribution black carbon has to aerosol direct radiative forcing. This work resulted in the development of a new instrument, based on photothermal interferometry, for the in situ measurement of black carbon. More recently, he has expanded his research interests to examine how atmospheric aging affects both the optical and morphological properties of black carbon. Dr. Sedlacek has organized several symposia on the application of lidar and vibrational spectroscopy for chemical and biological sensing. He has presented the results of his research at numerous national and international forums, through invited talks and in peer-reviewed publications. Dr. Sedlacek is a member of the American Chemical Society, American Association for Aerosol Research, American Geophysical Union, and the Optical Society of America.

Sioutas,Constantinos

University of Southern California

Dr. Constantinos Sioutas is currently the first holder of the Fred Champion Professorship in Civil and Environmental Engineering at the University of Southern California (USC) and the Co-Director and Co-Principal Investigator of the Southern California Particle Center and Supersite (SCPCS). The SCPCS is a recently renewed, multi-million dollar 12-year research program, established in early 2000 by the U.S. Environmental Protection Agency (EPA). Dr. Sioutas holds B.S. in Mechanical Engineering from Aristotle University of Thessaloniki, Greece (1986), an M.S. in Mechanical Engineering (1988) and an M.S. in Aerospace Engineering (1989) from the University of Minnesota, and an Sc.D. in Environmental Science and Engineering from Harvard University (1994). He came to the U.S. in the fall of 1986 as a Fulbright Foundation fellow to pursue graduate studies, and worked as an Advanced Product Development Engineer for 3M Company for two years prior to continuing his doctoral studies at Harvard School of Public Health in the department of Environmental Engineering. Dr. Sioutas started his academic career in 1995 as an Assistant Professor of Aerosol Science at the Harvard, prior to joining the faculty of the University of Southern California (USC) in January 1998. His research has followed an integrated approach to the problem of the well-publicized and significant effects of particulate air pollution on health and the environment. Dr. Sioutas' research has focused on investigations of the underlying mechanisms that produce the health effects associated with exposure to air pollutants generated by a variety of combustion sources, such as traffic (including light and heavy-duty vehicles, natural gas buses, and biodiesel vehicles), harbor and airport operations, power plants, and photochemically induced atmospheric reactions. He was the Principal Investigator in one of the first and most highly cited studies on exposures to vehicular emissions and the decrease of pollutants with distance to freeways. During his faculty career, Dr. Sioutas has directed, as either a Principal or Co-Principal Investigator, some 40 research grants many of which extend through 2012 and beyond. He has authored about 200 peer-reviewed journal publications, 5 book chapters and holds 13 U.S. patents in the development of instrumentation for aerosol measurement and emissions control. Dr. Sioutas' published work has received over 5,100 citations according to the ISI Web of Science, and he is among the top 1% of authors worldwide in Engineering according to the Institute of Scientific Information. Results from his publications have been used by EPA in their National Air Quality Criteria document in promulgating stricter air quality standards in the U.S. He has advised 15 Ph.D. students, and mentored 18 postdoctoral fellows at USC, and is co-editor in chief of the journal of Aerosol & Air Quality Research and a member of the editorial board of Atmospheric Environment.

Watson,John

Nevada System of Higher Education

Dr. John G. Watson is a research professor at the Desert Research Institute (DRI) where he has been employed since 1982. DRI is part of the Nevada state university system. He holds an A.B. degree in physics from the State University of New York at Brockport, a M.S. degree in physics from the University of Toledo, and a Ph.D. degree in environmental science from the Oregon Health and Science University (formerly Oregon Graduate Institute). Dr. Watson's research has involved non-linear optics, aerosol sampling and characterization methods, source apportionment using receptor models, and causes of visibility degradation. He has authored and co-authored more than 300 peer-reviewed journal articles and book chapters on these topics, including more than 100 related to black carbon measurements, their comparability, and BC effects on light transmission through the atmosphere. Dr. Watson co-chaired the National Academy of Engineering's panel on "Energy Futures and Urban Air Pollution Challenges for China and the United States" and was a member of the National Academy of Sciences panel on "New Source Review for Stationary Sources of Air Pollution." He authored the Air & Waste Management Association's 2002 critical review on "Visibility: Science and Regulation" and has served on A&WMA's critical review committee since 1982. Dr. Watson has been principal investigator for several major aerosol and visibility source apportionment studies used to design emission reduction strategies for attaining national ambient air quality standards.